

PC10350AGPR.ST25.txt SEQUENCE LISTING

TECH CENTER 1600/2900

```
Pfizer Inc.
Fidock, Mark D.
```

<120> PHOSPHODIESTERASE ENZYMES

.<130> PC10350AGPR

<140> US 09/663,481

<141> 2000-09-15

<150> US 60/177,326

<151> 2000-01-20

<150> UK 9922125.1

1999-09-17

<160> 21

<151>

<170> PatentIn version 3.2

<210> 1

<211> 516

<212> PRT

<213> Homo sapiens

<400> 1

Met Ala Asn Pro Val Pro Val Gln Arg Ser His Leu Gln Gly Pro Ile 1 5 10 15

Leu Arg Leu Arg Tyr Met Val Lys Gln Leu Glu Asn Gly Glu Ile Asn 20 25 30

Ile Glu Glu Leu Lys Lys Asn Leu Glu Tyr Thr Ala Ser Leu Leu Glu 35 40 45

Ala Val Tyr Ile Asp Glu Thr Arg Gln Ile Leu Asp Thr Glu Asp Glu 50 60

Leu Gln Glu Leu Arg Ser Asp Ala Val Pro Ser Glu Val Arg Asp Trp 65 70 75 80

Leu Ala Ser Thr Phe Thr Gln Gln Ala Arg Ala Lys Gly Arg Ala 85 90 95

Glu Glu Lys Pro Lys Phe Arg Ser Ile Val His Ala Val Gln Ala Gly 100 105 110

Ile Phe Val Glu Arg Met Phe Arg Arg Thr Tyr Thr Ser Val Gly Pro 115 120 125

Thr Tyr Ser Thr Ala Val Leu Asn Cys Leu Lys Asn Leu Asp Leu Trp 130 135 140

Cys Phe Asp Val Phe Ser Leu Asn Gln Ala Ala Asp Asp His Ala Leu 145 150 155 160 Page 1

213

Arg Thr Ile Val Phe Glu Leu Leu Thr Arg His Asn Leu Ile Ser Arg 165 170 175 Phe Lys Ile Pro Thr Val Phe Leu Met Ser Phe Leu Asp Ala Leu Glu 180 185 190 Thr Gly Tyr Gly Lys Tyr Lys Asn Pro Tyr His Asn Gln Ile His Ala 195 200 205 Ala Asp Val Thr Gln Thr Val His Cys Phe Leu Leu Arg Thr Gly Met 210 220 Val His Cys Leu Ser Glu Ile Glu Leu Leu Ala Ile Ile Phe Ala Ala 225 230 235 240 Ala Ile His Asp Tyr Glu His Thr Gly Thr Thr Asn Ser Phe His Ile 245 250 255 Gln Thr Lys Ser Glu Cys Ala Ile Val Tyr Asn Asp Arg Ser Val Leu 260 265 270 Glu Asn His His Ile Ser Ser Val Phe Arg Leu Met Gln Asp Asp Glu 275 280 285 Met Asn Ile Phe Ile Asn Leu Thr Lys Asp Glu Phe Val Glu Leu Arg 290 295 300 Ala Leu Val Ile Glu Met Val Leu Ala Thr Asp Met Ser Cys His Phe 305 310 315 320 Gln Gln Val Lys Thr Met Lys Thr Ala Leu Gln Gln Leu Glu Arg Ile 325 330 335 Asp Lys Pro Lys Ala Leu Ser Leu Leu Leu His Ala Ala Asp Ile Ser 340 345 350 His Pro Thr Lys Gln Trp Leu Val His Ser Arg Trp Thr Lys Ala Leu 355 360 365 Met Glu Glu Phe Phe Arg Gln Gly Asp Lys Glu Ala Glu Leu Gly Leu 370 380 Pro Phe Ser Pro Leu Cys Asp Arg Thr Ser Thr Leu Val Ala Gln Ser 385 390 395 400 Gln Ile Gly Phe Ile Asp Phe Ile Val Glu Pro Thr Phe Ser Val Leu 405 410 415 Thr Asp Val Ala Glu Lys Ser Val Gln Pro Leu Ala Asp Glu Asp Ser Page 2

420 425 430

Lys Ser Lys Asn Gln Pro Ser Phe Gln Trp Arg Gln Pro Ser Leu Asp 445

.Val Glu Val Gly Asp Pro Asn Pro Asp Val Val Ser Phe Arg Ser Thr 450 455 460

Trp Val Lys Arg Ile Gln Glu Asn Lys Gln Lys Trp Lys Glu Arg Ala 465 470 475 480

Ala Ser Gly Ile Thr Asn Gln Met Ser Ile Asp Glu Leu Ser Pro Cys 485 490 495

Glu Glu Glu Ala Pro Pro Ser Pro Ala Glu Asp Glu His Asn Gln Asn 500 505 510

Gly Asn Leu Asp 515

<210> 2

<211> 3091

<212> DNA

<213> Homo sapiens

<400> 2

gtcgacccac gcgtccggga ggaggaaggc aggggccaaa gaggaagttg tcccctcttq 60 ggggccctgg ggctcctggg gtcaggattt tgatactctg aagcaggaaa ctttgattcc 120 catggcaaac cctgttcctg ttcagaggag ccacctccag ggccccattc tcaggctgcg 180 ctacatggtg aagcagttgg agaatgggga gataaacatt gaggagctga agaaaaatct 240 ggagtacaca gcttctctgc tggaagccgt ctacatagat gagacacggc aaatcttgga 300 cacggaggac gagctgcagg agctgcggtc agatgccgtg ccttcggagg tgcgggactg 360 gctggcctcc accttcaccc agcaggcccg ggccaaaggc cgccgagcag aggagaagcc 420 caagttccga agcattgtgc acgctgtgca ggctgggatc ttcgtggaac ggatgttccq 480 gagaacatac acctctgtgg gccccactta ctctactgcg gttctcaact gtctcaagaa 540 cctggatctc tggtgctttg atgtcttttc cttgaaccag gcagcagatg accatgccct 600 gaggaccatt gtttttgagt tgctgactcg gcataacctc atcagccgct tcaagattcc 660 cactgtgttt ttgatgagtt tcctggatgc cttggagaca ggctatggga agtacaagaa 720 tccttaccac aaccagatcc acgcagccga tgttacccag acagtccatt gcttcttgct 780 ccgcacaggg atggtgcact gcctgtcgga gattgagctc ctggccatca tctttgctgc 840 agctatccat gattatgagc acacgggcac taccaacagc ttccacatcc agaccaagtc 900 agaatgtgcc atcgtgtaca atgatcgttc agtgctggag aatcaccaca tcagctctgt 960 tttccgattg atgcaggatg atgagatgaa cattttcatc aacctcacca aggatgagtt 1020

		D/	:10350AGPR.	CT25 +v+		
tgtagaactc	cgagccctgg				cctgccattt	1080
ccagcaagtg	aagaccatga	agacagcctt	gcaacagctg	gagaggattg	acaagcccaa	1140
ggccctgtct	ctactgctcc	atgctgctga	catcagccac	ccaaccaagc	agtggttggt	1200
ccacagccgt	tggaccaagg	ccctcatgga	ggaattcttc	cgtcagggtg	acaaggaggc	1260
agagttgggc	ctgccctttt	ctccactctg	tgaccgcact	tccactctag	tggcacagtc	1320
tcagataggg	ttcatcgact	tcattgtgga	gcccacattc	tctgtgctga	ctgacgtggc	1380
agagaagagt	gttcagcccc	tggcggatga	ggactccaag	tctaaaaacc	agcccagctt	1440
tcagtggcgc	cagccctctc	tggatgtgga	agtgggagac	cccaaccctg	atgtggtcag	1500
ctttcgttcc	acctgggtca	agcgcattca	ggagaataag	cagaaatgga	aggaacgggc	1560
agcaagtggc	atcaccaacc	agatgtccat	tgacgagctg	tcccctgtg	aagaagaggc	1620
cccccatcc	cctgccgaag	atgaacacaa	ccagaatggg	aatctggatt	agccctgggg	1680
ctggcccagg	tcttcattga	gtccaaagtg	tttgatgtca	tcagcaccat	ccatcaggac	1740
tggctcccc	atctgctcca	agggagcgtg	gtcgtggaag	aaacaaccca	cctgaaggcc	1800
aaatgccaga	gatttggggt	tggggaaagg	gcccctcccc	acctgacacc	cactggggtg	1860
cactttaatg	ttccggcagc	aagactgggg	aacttcaggc	tcccagtggt	cactgtgccc	1920
atccctcagc	ctctggattc	tcttcatggc	caggtggctg	ccagggagcg	gggagcttcc	1980
tggaggcttc	ccagggcctt	ggggaagggt	cagagatgcc	agccccctgg	gacctcccc	2040
atcctttttg	cctccaagtt	tctaagcaat	acattttggg	ggttccctca	gccccccacc	2100
ccagatctta	gctggcaggt	ctgggtgccc	cttttcctcc	cctgggaagg	gctggaatag	2160
gatagaaagc	tgggggtttt	cagagcccta	tgtgtgggga	ggggagtgga	ttccttcagg	2220
gcatggtacc	tttctaggat	ctgggaatgg	ggtggagagg	acatcctctt	caccccagaa	2280
ttgcgctgct	tcagccccat	ctccagcctg	atcctctgaa	tcttccttcc	ctccctttct	2340
gatacagtga	ctggggcaaa	aggagccatt	gtgaccaggg	gctgcgggag	gcctttcctg	2400
ggaccttcct	tgggactggt	ctgggcccct	ggggcttgtc	gcctgccctg	agtccggagc	2460
cctttgcctc	cttcctcc	cctggggctg	ggaggctcca	tccgaccaat	gtctgtaaag	2520
tgctttgagg	atctccccag	caaagcacct	tcagaatgta	tcgacaccag	ctgggttagg	2580
gtcaagggtg	cctggggagg	gtgagtaatc	ctgcattgct	aaaagagagg	gtctgtcccc	2640
tcctctccac	gtcccagaac	tggcccagct	gcaggcacta	agaagctcct	cccctgagac	2700
aagtgagggg	tagtcggtga	aaggcagatg	gacaaggggc	tcagggctgc	tgccttcctg	2760
tcctctggag	agaacccagc	caggcgcggt	gccccttcct	ctcctcaggc	tcctccttgc	2820
ccccaccttg	ccccaggaaa	ggccaaagtc	caggtgactg	ccctccttct	ttcttgtaaa	2880
taccaaccat	gcatttgtac	agtgggccct	gttcatgcga	aatccacatc	catggtctcc	2940
tagacctgct	accctggtac	ttccacccta	ccccaccccg	agaagggcag	agacgcatgt	3000
gactcacccc	tgcccttggt	ttcccagacc	cctgctatag Page 4	ccagagaaca	ataaagaagg	3060

gagaccagga aaaaaaaaa aaaaaaaaa a

3091

<2	1	0>	3
	4	٦.	F 2

<211> 536 <212> PRT

<213> Homo sapiens

<400> 3

Met Glu Leu Ser Pro Arg Ser Pro Pro Glu Met Leu Glu Glu Ser Asp $1 \\ 0 \\ 15$

Cys Pro Ser Pro Leu Glu Leu Lys Ser Ala Pro Ser Lys Lys Met Trp 20 25 30

Ile Lys Leu Arg Ser Leu Leu Arg Tyr Met Val Lys Gln Leu Glu Asn 35 40 45

Gly Glu Ile Asn Ile Glu Glu Leu Lys Lys Asn Leu Glu Tyr Thr Ala 50 60

Ser Leu Leu Glu Ala Val Tyr Ile Asp Glu Thr Arg Gln Ile Leu Asp 65 70 75 80

Thr Glu Asp Glu Leu Gln Glu Leu Arg Ser Asp Ala Val Pro Ser Glu 85 90 95

Val Arg Asp Trp Leu Ala Ser Thr Phe Thr Gln Gln Ala Arg Ala Lys
100 105 110

Gly Arg Arg Ala Glu Glu Lys Pro Lys Phe Arg Ser Ile Val His Ala 115 120 125

Val Gln Ala Gly Ile Phe Val Glu Arg Met Phe Arg Arg Thr Tyr Thr 130 135 140

Ser Val Gly Pro Thr Tyr Ser Thr Ala Val Leu Asn Cys Leu Lys Asn 145 150 155 160

Leu Asp Leu Trp Cys Phe Asp Val Phe Ser Leu Asn Gln Ala Ala Asp 165 170 175

Asp His Ala Leu Arg Thr Ile Val Phe Glu Leu Leu Thr Arg His Asn 180 185 190

Leu Ile Ser Arg Phe Lys Ile Pro Thr Val Phe Leu Met Ser Phe Leu 195 200 205

Asp Ala Leu Glu Thr Gly Tyr Gly Lys Tyr Lys Asn Pro Tyr His Asn 210 215 220

PC10350AGPR.ST25.txt Gln Ile His Ala Ala Asp Val Thr Gln Thr Val His Cys Phe Leu Leu 225 230 235 240 Arg Thr Gly Met Val His Cys Leu Ser Glu Ile Glu Leu Leu Ala Ile 245 250 255 Ile Phe Ala Ala Ile His Asp Tyr Glu His Thr Gly Thr Thr Asn 260 265 270 Ser Phe His Ile Gln Thr Lys Ser Glu Cys Ala Ile Val Tyr Asn Asp · 275 280 285 Arg Ser Val Leu Glu Asn His His Ile Ser Ser Val Phe Arg Leu Met 290 295 300 Gln Asp Asp Glu Met Asn Ile Phe Ile Asn Leu Thr Lys Asp Glu Phe 305 310 315 320 Val Glu Leu Arg Ala Leu Val Ile Glu Met Val Leu Ala Thr Asp Met 325 330 335 Ser Cys His Phe Gln Gln Val Lys Thr Met Lys Thr Ala Leu Gln Gln 340 345 350 Leu Glu Arg Ile Asp Lys Pro Lys Ala Leu Ser Leu Leu Leu His Ala 355 360 365 Ala Asp Ile Ser His Pro Thr Lys Gln Trp Leu Val His Ser Arg Trp 370 375 380 Thr Lys Ala Leu Met Glu Glu Phe Phe Arg Gln Gly Asp Lys Glu Ala 385 390 395 400 Glu Leu Gly Leu Pro Phe Ser Pro Leu Cys Asp Arg Thr Ser Thr Leu 405 410 415 Val Ala Gln Ser Gln Ile Gly Phe Ile Asp Phe Ile Val Glu Pro Thr 420 425 430 Phe Ser Val Leu Thr Asp Val Ala Glu Lys Ser Val Gln Pro Leu Ala 435 440 445 Glu Asp Ser Lys Ser Lys Asn Gln Pro Ser Phe Gln Trp Arg Gln 450 460 Pro Ser Leu Asp Val Glu Val Gly Asp Pro Asn Pro Asp Val Val Ser 465 470 475 480 Phe Arg Ser Thr Trp Val Lys Arg Ile Gln Glu Asn Lys Gln Lys Trp 485 490 495

Lys Glu Arg Ala Ala Ser Gly Ile Thr Asn Gln Met Ser Ile Asp Glu
500 505 510

Leu Ser Pro Cys Glu Glu Glu Ala Pro Pro Ser Pro Ala Glu Asp Glu 515 520 525

His Asn Gln Asn Gly Asn Leu Asp 530 535

<210> 4 <211> 3112 <212> DNA

<213> Homo sapiens

<400> gtcgacccac gcgtccgcc acgcgtccgg cctagagaca ccggcctggc tggtccacgc 60 cagccgcaga ccgtggctga gcatggagct gtccccccgc agtcctccgg agatgctgga 120 ggagtcggat tgcccgtcac ccctggagct gaagtcagcc cccagcaaga agatgtggat 180 240 taagcttcgg tctctgctgc gctacatggt gaagcagttg gagaatgggg agataaacat tgaggagctg aagaaaaatc tggagtacac agcttctctg ctggaagccg tctacataga 300 tgagacacgg caaatcttgg acacggagga cgagctgcag gagctgcggt cagatgccgt 360 gccttcggag gtgcgggact ggctggcctc caccttcacc cagcaggccc gggccaaagg 420 ccgccgagca gaggagaagc ccaagttccg aagcattgtg cacgctgtgc aggctgggat 480 cttcgtggaa cggatgttcc ggagaacata cacctctgtg ggccccactt actctactgc 540 ggttctcaac tgtctcaaga acctggatct ctggtgcttt gatgtctttt ccttgaacca 600 ggcagcagat gaccatgccc tgaggaccat tgtttttgag ttgctgactc ggcataacct 660 catcagccgc ttcaagattc ccactgtgtt tttgatgagt ttcctggatg ccttggagac 720 780 aggctatggg aagtacaaga atccttacca caaccagatc cacgcagccg atgttaccca gacagtccat tgcttcttgc tccgcacagg gatggtgcac tgcctgtcgg agattgagct 840 cctggccatc atctttgctg cagctatcca tgattatgag cacacgggca ctaccaacag 900 cttccacatc cagaccaagt cagaatgtgc catcgtgtac aatgatcgtt cagtgctgga 960 1020 caacctcacc aaggatgagt ttgtagaact ccgagccctg gtcattgaga tggtgttggc 1080 cacagacatg tcctgccatt tccagcaagt gaagaccatg aagacagcct tgcaacagct 1140 ggagaggatt gacaagccca aggccctgtc tctactgctc catgctgctg acatcagcca 1200 cccaaccaag cagtggttgg tccacagccg ttggaccaag gccctcatgg aggaattctt 1260 1320 ccgtcagggt gacaaggagg cagagttggg cctgcccttt tctccactct gtgaccgcac ttccactcta gtggcacagt ctcagatagg gttcatcgac ttcattgtgg agcccacatt 1380 ctctgtgctg actgacgtgg cagagaagag tgttcagccc ctggcggatg aggactccaa 1440

PC10350AGPR.ST25.txt gtctaaaaac cagcccagct ttcagtggcg ccagccctct ctggatgtgg aagtgggaga 1500 ccccaaccct gatgtggtca gctttcgttc cacctgggtc aagcgcattc aggagaacaa 1560 gcagaaatgg aaggaacggg cagcaagtgg catcaccaac cagatgtcca ttgacgagct 1620 gtccccctgt gaagaagagg cccccccatc ccctgccgaa gatgaacaca accagaatgg 1680 gaatctggat tagccctggg gctggcccag gtcttcattg agtccaaagt gtttgatgtc 1740 atcagcacca tccatcagga ctggctcccc catctgctcc aagggagcgt ggtcgtggaa 1800 gaaacaaccc acctgaaggc caaatgccag agatttgggg ttgggggaaag ggcccctccc 1860 cacctgacac ccactggggt gcactttaat gttccggcag caagactggg gaacttcagg 1920 ctcccagtgg tcactgtgcc catccctcag cctctggatt ctcttcatgg ccaggtggct 1980 gccagggagc ggggagcttc ctggaggctt cccagggcct tggggaaggg tcagagatgc 2040 cagccccctg ggacctcccc catccttttt gcctccaagt ttctaagcaa tacattttgg 2100 gggttccctc agcccccac cccagatctt agctggcagg tctgggtgcc ccttttcctc 2160 ccctgggaag ggctggaata ggatagaaag ctgggggttt tcagagccct atgtgtgggg 2220 aggggagtgg attccttcag ggcatggtac ctttctagga cctggggaatg gggtggagag 2280 gacatectet teaceceaga attgegetge tteageceea tetecageet gatectetga 2340 atcttccttc cctccctttc tgatatagtg actggggcaa aaggagccat tgtgaccagg 2400 ggctgcgga ggcctttcct gggaccttcc ttgggactgg tctgggcccc tggggcttgt 2460 cgcctgccct gagtccggag ccctttgcct ccttcctctc ccctggggct gggaggctcc 2520 atccgaccaa tgtctgtaaa gtgctttgag gatctcccca gcaaagcacc ttcagaatgt 2580 atcgacacca gctgggttag ggtcaagggt gcctggggag ggtgagtaat cctgcattgc 2640 taaaagagag ggtctgtccc ctcctctcca cgtcccagaa ctggcccagc tgcaggcact 2700 aagaagctcc tcccctgaga caagtgaggg gtagtcggtg aaaggcagat ggacaagggg 2760 ctcagggctg ctgccttcct gtcctctgga gagaacccag ccaggcgcgg tgccccttcc 2820 tctcctcagg ctcctccttg ccccacctt gccccaggaa aggccaaagt ccaggtgact 2880 gccctccttc tttcttgtaa ataccaaccg tgcatttgta cagtgggccc tgttcatgcg 2940 3000 gagaagggca gagacgcatg tgactcaccc ctgcccttgg tttcccagac ccctgctaca 3060 3112 <210> 24 <212> PRT <213> Homo sapiens <400>

Met Ala Asn Pro Val Pro Val Gln Arg Ser His Leu Gln Gly Pro Ile 5 10 15

Leu Arg Leu Arg Tyr Met Val Lys 20

<210>

60 <211>

PRT

Homo sapiens

<400>

Met Gly Ser Ser Ala Thr Glu Ile Glu Glu Leu Glu Asn Thr Thr Phe 1 10 15

Lys Tyr Leu Thr Gly Glu Gln Thr Glu Lys Met Trp Gln Arg Leu Lys 20 25 30

Gly Ile Leu Arg Cys Leu Val Lys Gln Leu Glu Arg Gly Asp Val Asn 35 40 45

Val Val Asp Leu Lys Lys Asn Ile Glu Tyr Ala Ala 50 55 60

<210> 7

<211> 44

<212> PRT

<213> Homo sapiens

<400>

Met Asp Asp His Val Thr Ile Arg Lys Lys His Leu Gln Arg Pro Ile
5 10 15

Phe Arg Leu Arg Cys Leu Val Lys Gln Leu Glu Arg Gly Asp Val Asn 20 25 30

Val Val Asp Leu Lys Lys Asn Ile Glu Tyr Ala Ala 35 40

<210> <211> <212> 60

PRT

<213> Homo sapiens

<400>

Met Glu Leu Ser Pro Arg Ser Pro Pro Glu Met Leu Glu Glu Ser Asp 10 10 15

Cys Pro Ser Pro Leu Glu Leu Lys Ser Ala Pro Ser Lys Lys Met Trp 20 25 30

Ile Lys Leu Arg Ser Leu Leu Arg Tyr Met Val Lys Gln Leu Glu Asn 35 40 45

Gly Glu Ile Asn Ile Glu Glu Leu Lys Lys Asn Leu Page 9

1

50

<210> 9 <211> 40

<212> PRT

<213> Homo sapiens

<400>

Met Ala Asn Pro Val Pro Val Gln Arg Ser His Leu Gln Gly Pro Ile 1 5 10 15

55

Leu Arg Leu Arg Tyr Met Val Lys Gln Leu Glu Asn Gly Glu Ile Asn 20 25 30

Ile Glu Glu Leu Lys Lys Asn Leu 35 40

<210> 10

<211> 39 <212> PRT

<213> Homo sapiens

<400>

Met Asp Asp His Val Thr Ile Arg Arg Lys His Leu Gln Arg Pro Ile $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Phe Arg Leu Arg Cys Leu Val Lys Gln Leu Glu Lys Gly Asp Val Asn 20 25 30

Val Ile Asp Leu Lys Lys Asn 35

<210>

39 <211>

<212> PRT <213> Homo sapiens

<400> 11

Met Ala Asn Pro Val Pro Val Gln Arg Ser His Leu Gln Gly Pro Ile 5 10 15

Leu Arg Leu Arg Tyr Met Val Lys Gln Leu Glu Asn Gly Glu Ile Asn 20 25 30

Ile Glu Glu Leu Lys Lys Asn 35

12 57 <210>

<211>

<212> PRT

Homo sapiens

<400> 12

PC10350AGPR.ST25.txt Met Gly Ser Thr Ala Thr Glu Thr Glu Glu Leu Glu Asn Thr Thr Phe 1 5 10 Lys Tyr Leu Ile Gly Glu Gln Thr Glu Lys Met Trp Gln Arg Leu Lys 20 25 30 Gly Ile Leu Arg Cys Leu Val Lys Gln Leu Glu Lys Gly Asp Val Asn 35 40 45 Val Ile Asp Leu Lys Lys Asn Ile Glu · 50 55 <210> 13 <211> 60 <212> PRT <213> Homo sapiens <400> 13 Met Glu Leu Ser Pro Arg Ser Pro Pro Glu Met Leu Glu Ser Asp Cys $1 \hspace{1cm} 10 \hspace{1cm} 15$ Pro Ser Pro Leu Glu Leu Lys Ser Ala Pro Ser Lys Lys Met Trp Ile 20 25 30 Lys Leu Arg Ser Leu Leu Arg Tyr Met Val Lys Gln Leu Glu Asn Gly 35 40 Glu Val Asn Ile Glu Glu Leu Lys Lys Asn Leu Glu 50 55 60 <210> 14 <211> 18 <212> DNA <213> Artificial <220> <223> primer <400> 14 cagtaacaga tgagctgc 18 15 <210> <211> 16 <212> DNA Artificial <213> <220> <223> primer <400> 15 gtattccttt caggcg 16 <210> 16 <211> 16 <212> DNA <213> **Artificia**l

Page 11

<220> <223>	primer	
<400> cacatt	16 tcct ctctgg	16
<210> <211> <212> <213>	17 23 DNA Artificial	
<220> <223>	primer	
<400> gggtct	17 ttgg agatgtttct tcc	23
<210><211><211><212><213>	18 18 DNA Artificial	
<220> <223>	primer	
<400> ctgagc	18 atgg agctgtcc	18
<210><211><211><212><213>	19 20 DNA Artificial	
<220> <223>	primer	
	19 ccga agcttaatcc	20
<210> <211> <212> <213>	20 18 DNA Artificial	
<220> <223>	primer	
<400> ccaaag	20 agga agttgtcc	18
<210> <211> <212> <213>	21 15 DNA Artificial	
<220> <223>	primer	
<400> gcagcc	21 tgac aatgg	15